RAW SEQUENCE LISTING   DATE: 01/14/2002
PATENT APPLICATION: US/10/018,706   TIME: 07:30:53

Input Set : **A:\seqlist.txt**
Output Set: **N:\CRF3\01142002\J018706.raw**

```
  4 <110> APPLICANT: Thonnard, Joelle
  6 <120> TITLE OF INVENTION: Cloning of BASB110 Antigen From
  7          Moraxella (Branhamella) Catarrhalis
 10 <130> FILE REFERENCE: BM45394
 12 <140> CURRENT APPLICATION NUMBER: US/10/018,706
 12 <141> CURRENT FILING DATE: 2001-12-13
 12 <150> PRIOR APPLICATION NUMBER: 9915031.0
 13 <151> PRIOR FILING DATE: 1999-06-25
 15 <150> PRIOR APPLICATION NUMBER: PCT/EP00/05854
 16 <151> PRIOR FILING DATE: 2000-06-23
 18 <160> NUMBER OF SEQ ID NOS: 6
 20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 969
 24 <212> TYPE: DNA
 25 <213> ORGANISM: Moraxella catarrhalis
 27 <400> SEQUENCE: 1
 28 atgactgtga cgatagcaat caattcacaa aatcaaaaac ccatcaagcg attgggcttg      60
 29 atttttggtg tgatcaccac ttgcattttg gcaggatgtg ccagtaagcc aacctataat     120
 30 agtacctcag gttcgggcag tcatcgtact tcaggttcag gtggtttggc aataggttca     180
 31 caggttatca cggacagtca gggcgtacca aatcgctatc aggtgaagca gggcgatact     240
 32 gtcagtaaga ttgctcagcg ttatggatta aattggcgtg agattggaca cattaataat     300
 33 ctaaatagca gttatacgat ttatacaggt caatggctga ctttatggtc aggtgatctc     360
 34 aaggtgcgtg agcgtagtat cagctctggt gtgaatacag ctcacacacc ttcgcctgtg     420
 35 gcggttcagt caagcagacc accagtacag cagcatcctg ccgtacaaaa acccacgcca     480
 36 cctgttgttg tggtaaaaaa acccacaccg actccgcctg tggttcagca gccagcacca     540
 37 gttgccccac cagtgacaga agcaccattt gccacgggta gctcaggggt gatgcaattt     600
 38 cgctatcctg ttggtgcgac caatccagtg gttcgacgct ttggtacggc gacagtggcc     660
 39 ggctcaactg ttaccagtaa tggcatgtgg ttttctggac gagatggcga tttaattaac     720
 40 gccagtaatg caggcacagt cattcaagct gatcacaata tggacggggc gagtattgtg     780
 41 attcagcata ccaatggatt tgtttcaagc tatatccata ttaaggacgc tcaagttaaa     840
 42 acaggcgata cggtgcgtac cggtcagcgt attgcaagca tgaaaaatca gccaagcggt     900
 43 gcggcactat ttgaatttag aatttctaga aatggcgtgt atgttgatcc attgacagta     960
 44 cttaaatag                                                              969
 46 <210> SEQ ID NO: 2
 47 <211> LENGTH: 322
 48 <212> TYPE: PRT
 49 <213> ORGANISM: Moraxella catarrhalis
 51 <400> SEQUENCE: 2
 52 Met Thr Val Thr Ile Ala Ile Asn Ser Gln Asn Gln Lys Pro Ile Lys
 53  1               5                  10                  15
 54 Arg Leu Gly Leu Ile Phe Gly Val Ile Thr Thr Cys Ile Leu Ala Gly
 55              20                  25                  30
 56 Cys Ala Ser Lys Pro Thr Tyr Asn Ser Thr Ser Gly Ser Gly Ser His
 57          35                  40                  45
 58 Arg Thr Ser Gly Ser Gly Gly Leu Ala Ile Gly Ser Gln Val Ile Thr
 59      50                  55                  60
```



```
60 Asp Ser Gln Gly Val Pro Asn Arg Tyr Gln Val Lys Gln Gly Asp Thr
61 65                  70              75                  80
62 Val Ser Lys Ile Ala Gln Arg Tyr Gly Leu Asn Trp Arg Glu Ile Gly
63                  85                  90                  95
64 His Ile Asn Asn Leu Asn Ser Ser Tyr Thr Ile Tyr Thr Gly Gln Trp
65              100             105             110
66 Leu Thr Leu Trp Ser Gly Asp Leu Lys Val Arg Glu Arg Ser Ile Ser
67          115             120             125
68 Ser Gly Val Asn Thr Ala His Thr Pro Ser Pro Val Ala Val Gln Ser
69      130             135             140
70 Ser Arg Pro Pro Val Gln Gln His Pro Ala Val Gln Lys Pro Thr Pro
71 145             150             155             160
72 Pro Val Val Val Val Lys Lys Pro Thr Pro Thr Pro Pro Val Val Gln
73              165             170             175
74 Gln Pro Ala Pro Val Ala Pro Pro Val Thr Glu Ala Pro Phe Ala Thr
75          180             185             190
76 Gly Ser Ser Gly Val Met Gln Phe Arg Tyr Pro Val Gly Ala Thr Asn
77          195             200             205
78 Pro Val Val Arg Arg Phe Gly Thr Ala Thr Val Ala Gly Ser Thr Val
79      210             215             220
80 Thr Ser Asn Gly Met Trp Phe Ser Gly Arg Asp Gly Asp Leu Ile Asn
81 225             230             235             240
82 Ala Ser Asn Ala Gly Thr Val Ile Gln Ala Asp His Asn Met Asp Gly
83              245             250             255
84 Ala Ser Ile Val Ile Gln His Thr Asn Gly Phe Val Ser Ser Tyr Ile
85              260             265             270
86 His Ile Lys Asp Ala Gln Val Lys Thr Gly Asp Thr Val Arg Thr Gly
87          275             280             285
88 Gln Arg Ile Ala Ser Met Lys Asn Gln Pro Ser Gly Ala Ala Leu Phe
89      290             295             300
90 Glu Phe Arg Ile Ser Arg Asn Gly Val Tyr Val Asp Pro Leu Thr Val
91 305             310             315             320
92 Leu Lys
95 <210> SEQ ID NO: 3
96 <211> LENGTH: 966
97 <212> TYPE: DNA
98 <213> ORGANISM: Moraxella catarrhalis
100 <400> SEQUENCE: 3
101 atgactgtga cgatagcaat caattcacaa aatcaaaaac ccatcaagcg attgggcttg      60
102 attttggtg tgatcaccac ttgcattttg gcaggatgtg ccagtaagcc aacctataat      120
103 agtacctcag gttcgggcag tcatcgtact tcaggttcag gtggtttggc aataggttca      180
104 caggttatca cggacagtca gggcgtacca aatcgctatc aggtgaagca gggcgatact      240
105 gtcagtaaga ttgctcagcg ttatggatta aattggcgtg agattggaca cattaataat      300
106 ctaaatagcg gttatacgat ttatacaggt caatggctga ctttatggtc aggtgatctc      360
107 aaggtgcgtg agcgtagtat cagctctggt gtgaatacag ctcacacacc ttcgcctgtg      420
108 gcggttcagt caagcagacc accagtacag cagcatcctg ccgtacaaaa acccacgcca      480
109 cctgttgttg tggtaaaaaa acccacaccg actccgcctg tggttcagca gccagcacca      540
110 gttgccccac cagtgacaga agcaccattt gccacgggta gctcaggggt gatgcaattt      600
111 cgctatcctg ttggtgcgac caatccagtg gttcgacgct ttggtacggc gacagtggcc      660
```

RAW SEQUENCE LISTING   DATE: 01/14/2002
PATENT APPLICATION: US/10/018,706   TIME: 07:30:53

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\01142002\J018706.raw

```
112 ggctcaactg ttaccagtaa tggcatgtgg ttttctggac gagatggcga tttaattaac  720
113 gccagtaatg caggcacagt cattcaagct gatcacaata tggacggggc gagtattgtg  780
114 attcagcata ccaatggatt tgtttcaagc tatatccata ttaaggacgc tcaagttaaa  840
115 acaggcgata cggtgcgtac cggtcagcgt attgcaagca tgaaaaatca gccaagcggt  900
116 gcggcactat ttgaatttag aatttctaga aatggcgtgt atgttgatcc attgacagta  960
117 cttaaa                                                            966
119 <210> SEQ ID NO: 4
120 <211> LENGTH: 322
121 <212> TYPE: PRT
122 <213> ORGANISM: Moraxella catarrhalis
124 <400> SEQUENCE: 4
125 Met Thr Val Thr Ile Ala Ile Asn Ser Gln Asn Gln Lys Pro Ile Lys
126 1               5                   10                  15
127 Arg Leu Gly Leu Ile Phe Gly Val Ile Thr Thr Cys Ile Leu Ala Gly
128         20                  25                  30
129 Cys Ala Ser Lys Pro Thr Tyr Asn Ser Thr Ser Gly Ser Gly Ser His
130         35                  40                  45
131 Arg Thr Ser Gly Ser Gly Gly Leu Ala Ile Gly Ser Gln Val Ile Thr
132     50                  55                  60
133 Asp Ser Gln Gly Val Pro Asn Arg Tyr Gln Val Lys Gln Gly Asp Thr
134 65                  70                  75                  80
135 Val Ser Lys Ile Ala Gln Arg Tyr Gly Leu Asn Trp Arg Glu Ile Gly
136                 85                  90                  95
137 His Ile Asn Asn Leu Asn Ser Gly Tyr Thr Ile Tyr Thr Gly Gln Trp
138             100                 105                 110
139 Leu Thr Leu Trp Ser Gly Asp Leu Lys Val Arg Glu Arg Ser Ile Ser
140         115                 120                 125
141 Ser Gly Val Asn Thr Ala His Thr Pro Ser Pro Val Ala Val Gln Ser
142     130                 135                 140
143 Ser Arg Pro Pro Val Gln Gln His Pro Ala Val Gln Lys Pro Thr Pro
144 145                 150                 155                 160
145 Pro Val Val Val Val Lys Lys Pro Thr Pro Thr Pro Pro Val Val Gln
146                 165                 170                 175
147 Gln Pro Ala Pro Val Ala Pro Pro Val Thr Glu Ala Pro Phe Ala Thr
148             180                 185                 190
149 Gly Ser Ser Gly Val Met Gln Phe Arg Tyr Pro Val Gly Ala Thr Asn
150         195                 200                 205
151 Pro Val Val Arg Arg Phe Gly Thr Ala Thr Val Ala Gly Ser Thr Val
152     210                 215                 220
153 Thr Ser Asn Gly Met Trp Phe Ser Gly Arg Asp Gly Asp Leu Ile Asn
154 225                 230                 235                 240
155 Ala Ser Asn Ala Gly Thr Val Ile Gln Ala Asp His Asn Met Asp Gly
156                 245                 250                 255
157 Ala Ser Ile Val Ile Gln His Thr Asn Gly Phe Val Ser Ser Tyr Ile
158             260                 265                 270
159 His Ile Lys Asp Ala Gln Val Lys Thr Gly Asp Thr Val Arg Thr Gly
160         275                 280                 285
161 Gln Arg Ile Ala Ser Met Lys Asn Gln Pro Ser Gly Ala Ala Leu Phe
162     290                 295                 300
```

RAW SEQUENCE LISTING   DATE: 01/14/2002
PATENT APPLICATION: US/10/018,706   TIME: 07:30:53

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\01142002\J018706.raw

```
    163 Glu Phe Arg Ile Ser Arg Asn Gly Val Tyr Val Asp Pro Leu Thr Val
    164 305                 310                 315                 320
    165 Leu Lys.
    168 <210> SEQ ID NO: 5
    169 <211> LENGTH: 35
    170 <212> TYPE: DNA
C--> 171 <213> ORGANISM: pArtificial Sequence
    173 <220> FEATURE:
    174 <223> OTHER INFORMATION: Primer
    176 <400> SEQUENCE: 5
    177 aggcagaggc atatgactgt gacgatagca atcaa                         35
    179 <210> SEQ ID NO: 6
    180 <211> LENGTH: 42
    181 <212> TYPE: DNA
    182 <213> ORGANISM: Artificial Sequence
    184 <220> FEATURE:
    185 <223> OTHER INFORMATION: Primer
    187 <400> SEQUENCE: 6
    188 aggcagaggc tcgagtttaa gtactgtcaa tggatcaaca ta                 42
```

VERIFICATION SUMMARY   DATE: 01/14/2002
PATENT APPLICATION: US/10/018,706   TIME: 07:30:54

Input Set : **A:\seqlist.txt**
Output Set: **N:\CRF3\01142002\J018706.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:171 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:5